

NATIONAL WEATHER SERVICE INSTRUCTION 10-405

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Operations and Services

Products and Services to Support Fire and Other Incidents, NWSPD 10-4

FIRE WEATHER SERVICES TRAINING AND PROFESSIONAL DEVELOPMENT

NOTICE: This publication is available at: <http://www.nws.noaa.gov/directives/>

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SUMMARY OF REVISIONS: This directive supersedes NWSI 10-405, “Fire Weather Services Training and Professional Development,” dated October 12, 2012. The following revisions were made to this instruction:

- 1) Changed section 1 to require NWS fire meteorologists and management to complete FEMA courses outlined in NIMS.
- 2) Adjusted section 1.1 to clarify availability of FEMA NIMS courses.
- 3) Added 2.b NIMS course requirements.
- 4) Added 3.b NIMS course requirements.
- 5) Added 4.b NIMS course requirement.

_____/signed/	March 13, 2014
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Fire Weather Services Training and Professional Development

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1. National Incident Management System (NIMS). The National Oceanic and Atmospheric Administration (NOAA) National Weather Service (NWS) will comply with NIMS required training for all NWS wildland fire incident responders. The NIMS Training Guide can be found at: http://www.fema.gov/pdf/emergency/nims/nims_training_program.pdf.
- 1.1 Department of Homeland Security/Federal Emergency Management Agency (FEMA) Course Availability. IS-100, 200, 700 and 800 are available online from the FEMA Emergency Management Institute at: <https://training.fema.gov/IS/NIMS.aspx>. IS-300 is available through each state's Department of Emergency Services. A list of contact information for each state's Emergency Management services is available from the FEMA website at: <http://www.fema.gov/about/contact/statedr.shtm>. Certificates of Achievement issued by FEMA for successful completion of a course is proof of compliance with required emergency management training courses listed in section 2.
2. Fire Weather Forecasters. Any NWS meteorologist producing any of the core suite of fire weather products is trained as a Fire Weather Forecaster. Forecasters fulfill the following requirements to work as a Fire Weather Forecaster:
 - a. Fire Weather and Wildland Fire Behavior Baseline Knowledge. Complete the National Wildfire Coordinating Group's (NWCG) S-290 "Intermediate Wildland Fire Behavior", either by computer based training or residence course.
 - b. Emergency Management Courses. Complete IS-100.b, "Introduction to the Incident Command System (ICS), ICS-100." Complete IS-700.a, "National Incident Management System (NIMS), An Introduction". Completion of these emergency management courses is required within 6 months of this directive going into effect.
 - c. Local Training. Complete local training as specified by the local and/or regional Fire Weather Program Leader (FWPL). This training should focus on: (1) the effects of local terrain on fire weather parameters and fire behavior, with an emphasis on wind; (2) local fire weather forecast techniques; (3) local fire season climatology; and (4) Remote Automated Weather Stations (RAWS) observations (where available).
 - d. Products and Services. Be familiar with all NWS fire weather products and services and become proficient in the preparation and dissemination procedures for those products, per NWS Policy Directive 10-4 and associated Instructions.

The Meteorologist-In-Charge (MIC) and the appropriate Regional Headquarters are responsible for ensuring fire weather forecasters are properly trained. At a minimum, forecasters will review the Fire Weather Annual Operating Plan and remain proficient in issuing fire weather products each year. Additional requirements to achieve and maintain proficiency are allowed with Regional Headquarters' approval.

3. Fire Weather Program Leaders. MICs of NWS Weather Forecast Offices (WFOs) assigned the responsibility to provide fire weather services will designate a member of the staff as the FWPL. The MIC will ensure the FWPL is provided adequate time for personal and staff training, professional development, and user-agency liaison and assistance activities. The FWPL is traditionally a WFO meteorologist; however the FWPL may be another WFO staff member with Regional Headquarters approval and assurance from the MIC that the non-meteorologist FWPL meets all training requirements.

The MIC, Science and Operations Officer (SOO) and FWPL will be responsible for training and development of fire weather forecasters and assisting the Incident Meteorologists (IMETs) (if one is assigned to the WFO) as necessary. The FWPL need not be an IMET and vice-versa. In addition to fire weather related training, the FWPL's duties may include developing and implementing new forecast products and techniques, and conducting climate and fire weather related studies. The extent of the duties of the FWPL will be determined by the depth of the local fire weather program requirements.

The FWPL will meet the following requirements in addition to those of the Fire Weather Forecaster (Section 2):

- a. Advanced Fire Weather and Wildland Fire Behavior. Completion of the Advanced Fire Weather Forecasters Course, available on the Commerce Learning Center. Also, completion of S-290 "Intermediate Wildland Fire Behavior" is a prerequisite. To learn more about wildland fire behavior, completion of the S-390 "Introduction to Wildland Fire Behavior Calculations" course is recommended but not required.
- b. Emergency Management Courses. Complete IS-200.b "ICS for Single Resources and Initial Action Incidents". Complete IS-800.b "National Response Framework, An Introduction". Completion of these emergency management courses is required within 9 months of this directive going into effect.
- c. National Fire Danger Rating System (NFDRS). At WFOs with an NFDRS program, the FWPL will acquire advanced knowledge of the NFDRS. This knowledge should include NFDRS history and purpose, details of its components or indices, how it is used by land managers, and its importance to local land management agencies. Training can be accomplished through self-study of S-491 course materials including the booklet "Gaining an Understanding of the National Fire Danger Rating System", the S-491 CD-ROM, and the NFDRS Reference Material CD-ROM. WFOs in areas where the Canadian Forest Fire Danger Rating System is used may substitute training for this system in place of NFDRS.

Regional Fire Weather Program Managers should also complete the requirements listed above for the WFO FWPLs.

4. Type 1 IMET Certification and Training. The NWS Office of Climate, Water, and Weather Services, through the National Fire Weather Operations Coordinator (NFWOC) and the

Regional Headquarters, will ensure IMETs are properly trained and certified to work within an ICS. The NFWOC and Regional Fire Weather Program Managers will ensure IMET meteorological support equipment familiarization is scheduled annually and designated IMETs in their regions remain certified.

4.1 Initial Type 1 IMET Certification. To be certified initially as an IMET, the meteorologist will have at least attained the level of General Forecaster and will either be stationed in an office that has a national All Hazards Meteorological Response System (AMRS) or stationed in a NWS office that is collocated in the same city as an office that has an AMRS. However, an Intern may complete any available training such as Cooperative Program for Operational Meteorology, Education and Training (COMET®) modules and NWCG fire courses, and may take a familiarization trip to a fire with Regional Headquarters and Incident Commander approval. The NFWOC has the discretion to waive the co-location of AMRS equipment requirement. The IMET trainee will acquire a high level of knowledge of fire weather meteorology and fire behavior. This includes: advanced knowledge of complex terrain and its impacts on fire weather parameters; mesoscale meteorology; intermediate to advanced knowledge of climatological patterns associated with fire activity; and intermediate to advanced knowledge of fire behavior, including knowledge of fuels and fire climatology. The prospective IMET will meet the following requirements in addition to all the requirements for FWPLs (Section 3):

- a. Wildland Fire Behavior Calculations. The IMET will complete the S-390 “Introduction to Wildland Fire Behavior Calculations” course to obtain knowledge of wildland fire behavior calculations. This course introduces fire behavior calculations by manual methods, provides basic skills in determining fire behavior through analysis of input data and interpretation of output data. In addition, the trainee will have a knowledge and familiarization of S-490 “Advanced Wildland Fire Behavior Calculations”, by reviewing the S-490 Student Reference Text and slides.
- b. Emergency Management Courses. Complete IS-300 “Intermediate ICS for Expanding Incidents”. Completion of this emergency management course is required within 1 year of this directive going into effect.
- c. Incident Training Assignment. The IMET will complete at least two incident (on-site) training assignments with certified IMETs. The first assignment should focus on incident familiarization and learning the appropriate IMET tasks. The second assignment should give the trainee a chance to demonstrate proficiency in these critical tasks under supervision of a certified IMET. Trainees will complete at least 20 days of on-site training combined between the two assignments (not including travel days). One of the assignments will be at least five consecutive days. One assignment will be with a Type I or Type II Wildland Fire Incident Management Team. Proficiency will be demonstrated and tracked using the Type 1 IMET Task Book. This will occur during all training assignments, and progress will be judged by the IMET trainer(s). Incident training will include: experience with dispatch and demobilization procedures and the ICS; set up, use, disassembly, and packing of the communication systems and Atmospheric

Theodolite Meteorological Unit (ATMU); ordering and use of FireRAWS; preparation of on-site forecasts; briefing Incident teams; and working and coordinating with local forecast offices. Upon successful completion of the training assignments, the certified IMET providing the training will sign-off on the IMET Task Book.

A trainee will be certified as a Fire Weather Forecaster (see Section 2) before assignment for incident training. The trainee should also try to complete as many of the other IMET certification requirements (Sections 2 and 3) as possible before incident training, though it is recognized completion of some requirements are controlled by course schedules. Regional Fire Weather Program Managers will determine when trainees are ready for incident training and will coordinate this information with the NFWOC.

The IMET's MIC is the final certifying official. He/she should coordinate with the Regional Fire Weather Program Manager and the NFWOC, and ensure all required courses, study, and tasks specified in 3.1 are complete before signing the Task Book. The MIC's signature on the Task Book denotes the official certification for the IMET.

4.2 Type 1 IMET Re-certification. The status of IMET certification will be reviewed annually by the respective Regional Headquarters and MICs prior to delivering the pre-season list of certified IMETs to the NFWOC (required by January 31st of each year). Delivery of IMET names to the NFWOC implies each IMET has met the ongoing re-certification criteria.

4.2.1 Type 1 IMET Re-certification Criteria. To remain certified as an IMET, the IMET will satisfy the criteria below. Please note that refresher training identified as "mandatory" will be noted as such on the IMET Google Sites website:

- a. Be stationed at an office that has an AMRS or collocated in the same city as an office that has an AMRS. The NFWOC has the discretion to waive this requirement.
- b. Have responded to a wildland fire incident dispatch as a certified IMET using the AMRS within the previous three years.
- c. Attend annual fireline safety refresher training provided by the wildland fire agencies. This course is commonly known as the RT-130 Annual Fireline Safety Refresher Course.
- d. Complete any offered annual IMET equipment deployment refresher training identified as mandatory.
- e. Complete any offered annual IMET NOAA mandated safety refresher training.
- f. Complete any offered annual IMET business practices refresher training identified

as mandatory.

4.2.2 Lapse of Certification. If a previously certified IMET does not meet the criteria in 4.2.1, re-certification can occur by completing a dispatch training session at an incident with a certified IMET. For a dispatch training session, the certified IMET will determine the necessary length of dispatch for re-certification. The certified IMET will notify the Regional Headquarters and the MIC if and when he/she deems re-certification should be approved. The IMET seeking re-certification does not have to formally complete a Task Book, but the required tasks should be reviewed for re-certification purposes. The respective Regional Program Manager or MIC should notify the NFWOC of any changes in IMET certification. If an IMET is transferred to an office that does not have an AMRS, that Type 1 IMET can become a Type 2 IMET if they so choose.

4.3 Optional IMET Training. Optional but highly recommended training for IMETs includes:

- a. Advanced Wildland Fire Behavior Calculations. The IMET should attend the land management agencies' in-residence S-490 "Advanced Wildland Fire Behavior Calculations" course to further the knowledge of wildland fire behavior calculations obtained from reviewing the Student Reference Text. The course provides advanced skills in fire behavior analysis and prediction through the use of more complicated scenarios involving weather, terrain, and fuels.
- b. Advanced Fire Behavior Interpretation. The IMET should attend the S-590 "Advanced Fire Behavior Interpretation" course to obtain knowledge of the role of the Fire Behavior Analyst on an incident and to better understand the interaction of the IMET with the Fire Behavior Analyst.

5. Course Information. Contact the appropriate Regional Fire Weather Program Manager for information on obtaining course materials, dates of residence classes, etc. Information can be found online at: <http://www.nationalfiretraining.net/>.

6. Type 2 IMET Certification and Training. To be certified initially as a Type 2 IMET, the meteorologist will have at least attained the level of General Forecaster. However, an Intern may complete any available training such as COMET® modules and NWCG fire courses, and may take a familiarity trip to an Emergency Operations Center (EOC), Joint Field Office (JFO), or Area Command (AC) with Region Headquarters and Center Manager approval. Type 2 IMETs will complete the same NIMS courses and fire weather and fire behavior courses as a Type 1 IMETs. The Type 2 IMET will not be required to complete fireline safety training. The Type 2 IMET will also complete the Type 2 IMET taskbook. This will allow Type 2 IMETs to serve wildland fire at EOCs, JFOs, or ACs. However, the Type 2 IMET will not be able to serve on wildland fires at an Incident Command Post (ICP). Type 1 IMETs are automatically Type 2 qualified, but Type 2 IMETs are not Type 1 qualified and are required to complete the training process outlined in section 4 above.

6.1 Type 2 IMET Re-certification. The status of IMET certification will be reviewed annually by the respective Regional Headquarters and MICs prior to delivering the pre-season list

of certified IMETs to the NFWOC (required by January 31st of each year). Delivery of IMET names to the NFWOC implies each IMET has met the ongoing re-certification criteria.

6.1.1 Type 2 IMET Re-certification Criteria. To remain certified as a Type 2 IMET, the IMET will satisfy the criteria below. Please note that refresher training identified as “mandatory” will be noted as such on the IMET Google Sites website:

- a. Have responded to a wildland fire incident dispatch as a certified Type 2 IMET within the previous three years.
- b. Complete any offered annual IMET Information Technology (IT) refresher training identified as mandatory.
- c. Complete any offered annual IMET NOAA mandated safety refresher training (safe driving, etc.).
- d. Complete any offered annual IMET business practices refresher training identified as mandatory.

6.1.2 Lapse of Type 2 IMET Certification. If a previously certified Type 2 IMET does not meet the criteria in 6.1.1, re-certification can occur by completing a dispatch training session at an incident with a certified IMET. For a dispatch training session, the certified IMET will determine the necessary length of dispatch for re-certification. The certified IMET notifies the Regional Headquarters and the MIC if and when he/she deems re-certification should be approved. The IMET seeking re-certification does not have to formally complete a Task Book, but the required tasks should be reviewed for re-certification purposes. The respective Regional Program Manager or MIC should notify the NFWOC of any changes in IMET certification.